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1/28

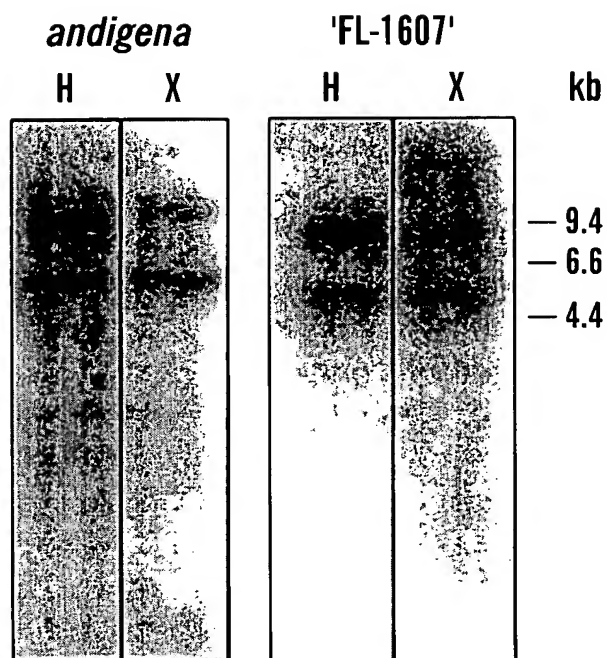


FIG. 1

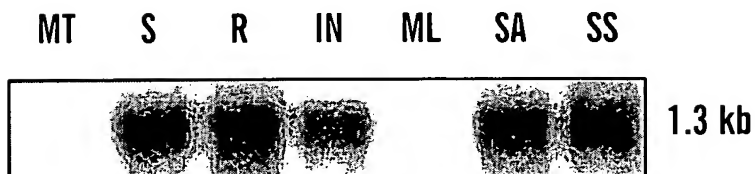


FIG. 2

2/28

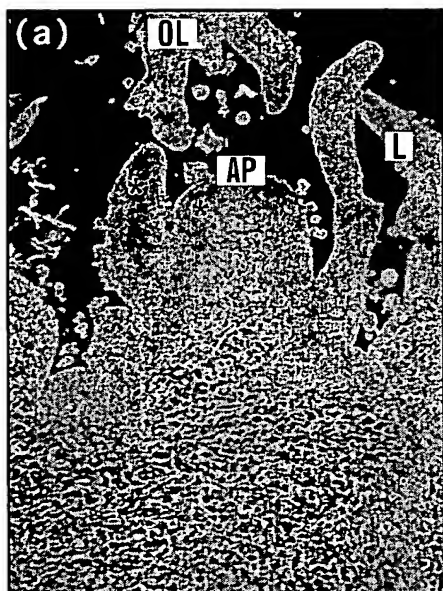


FIG. 3A

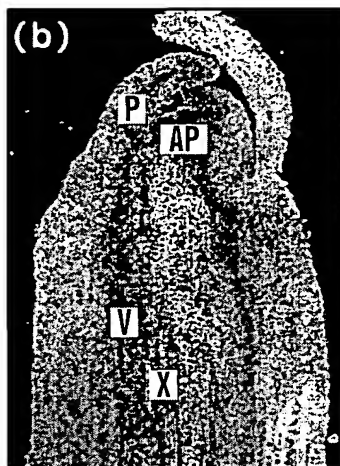


FIG. 3B



FIG. 3C

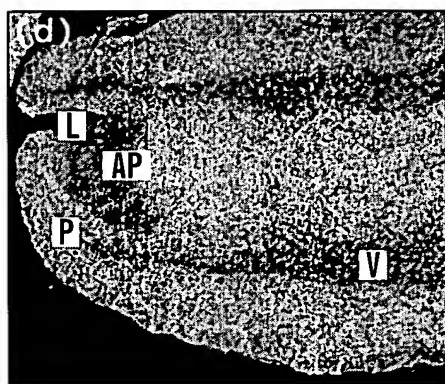


FIG. 3D

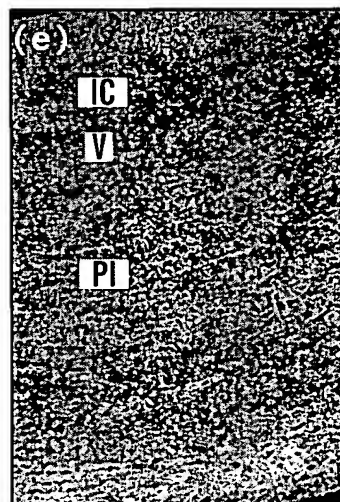


FIG. 3E

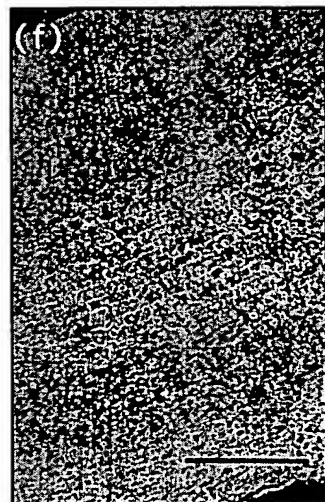


FIG. 3F

3/28



FIG. 4A



FIG. 4B

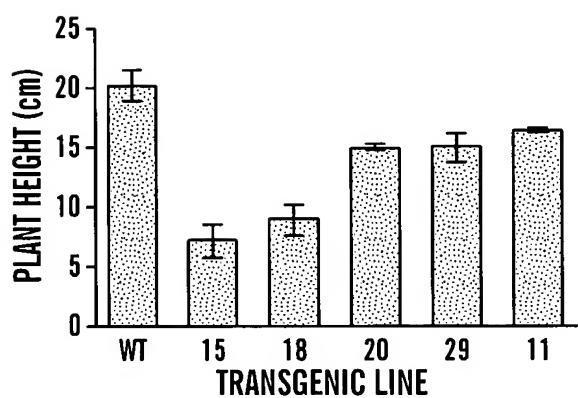


FIG. 4C

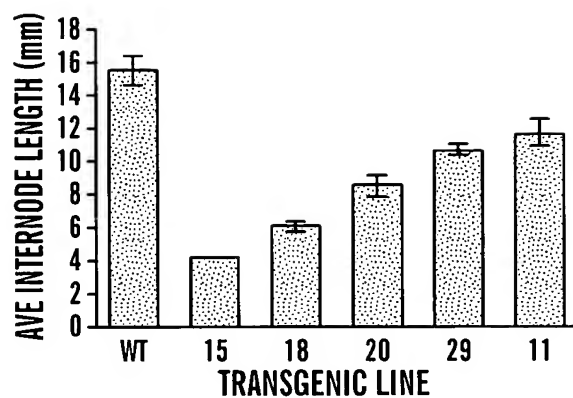


FIG. 4D

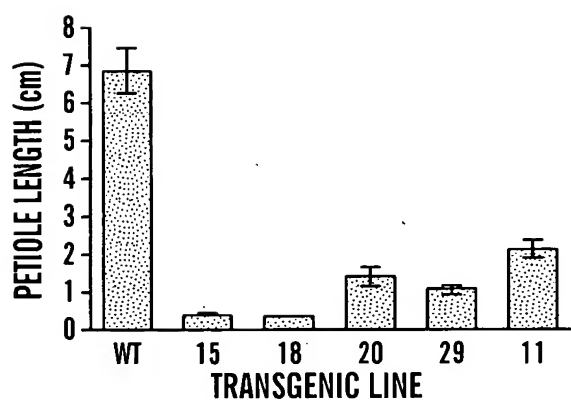


FIG. 4E

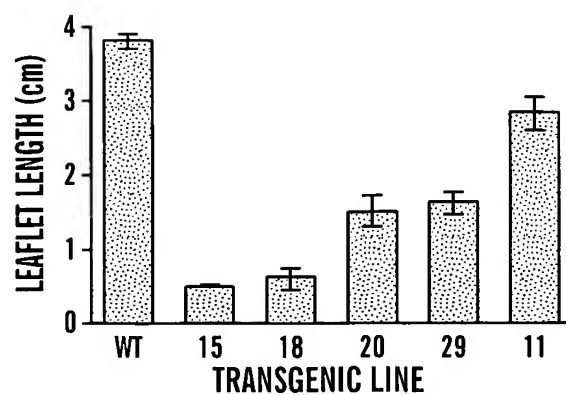


FIG. 4F

4/28

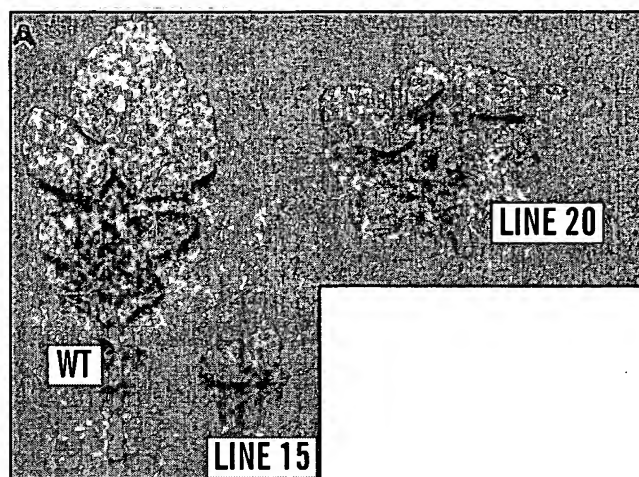


FIG. 5A

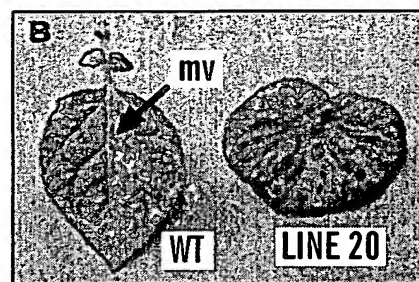


FIG. 5B



FIG. 5C

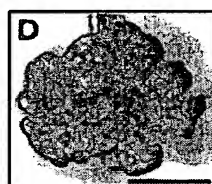


FIG. 5D

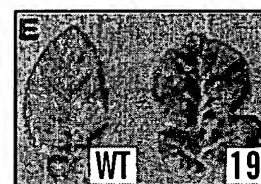


FIG. 5E

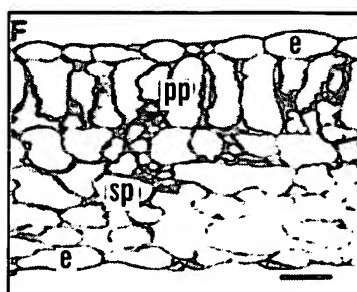


FIG. 5F

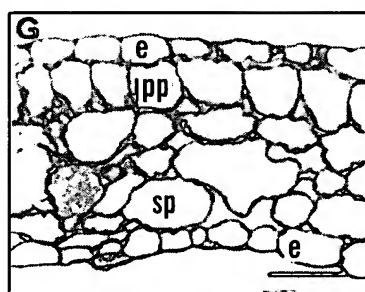


FIG. 5G

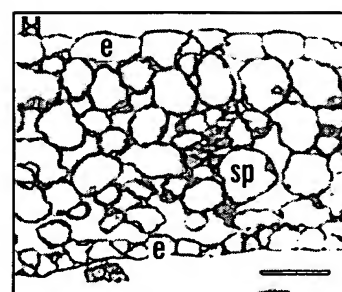


FIG. 5H

5/28

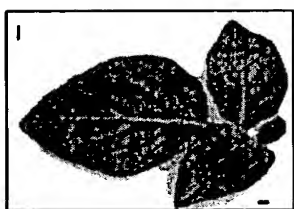


FIG. 5I

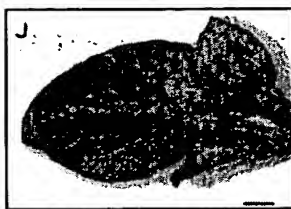


FIG. 5J

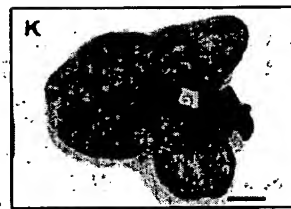


FIG. 5K

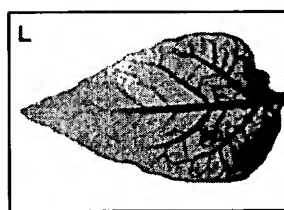


FIG. 5L

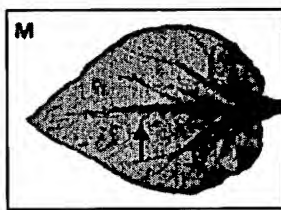


FIG. 5M

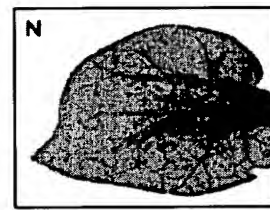


FIG. 5N

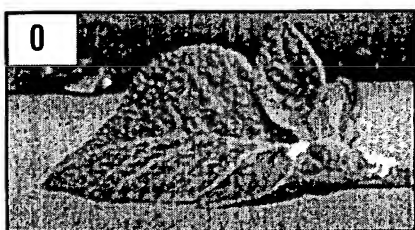


FIG. 5O



FIG. 5P

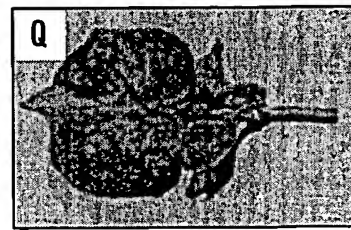


FIG. 5Q

6/28

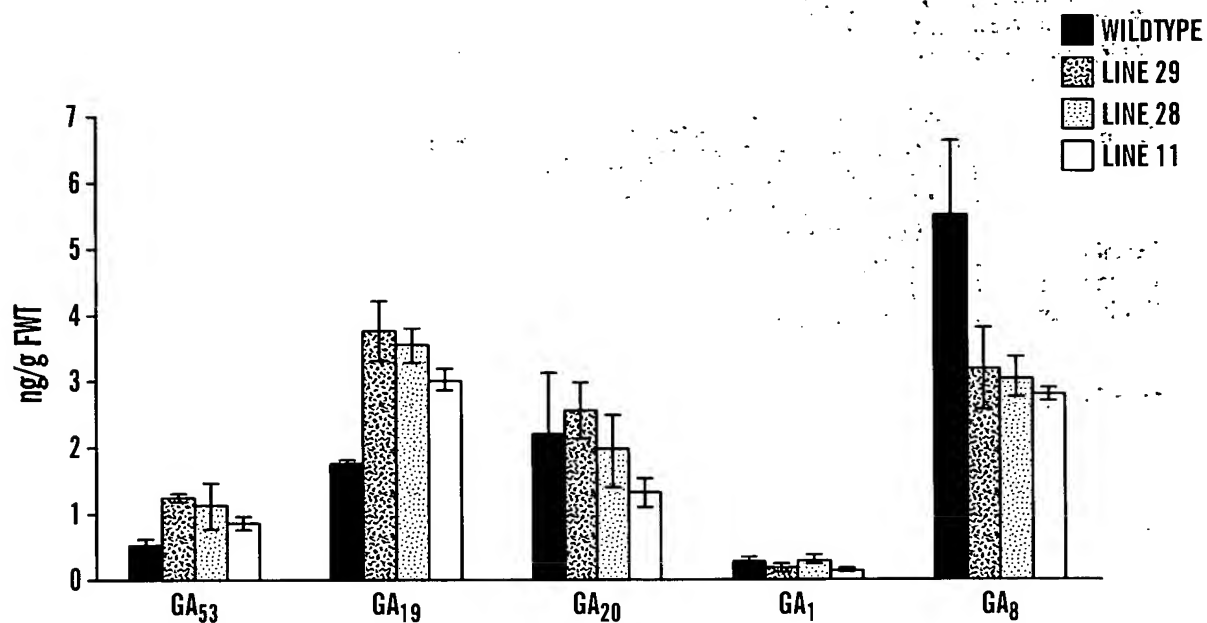


FIG. 6

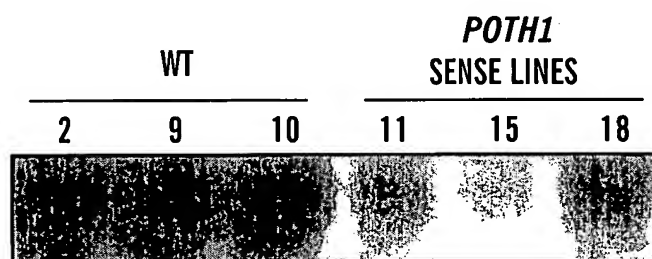


FIG. 7A



FIG. 7B

7/28

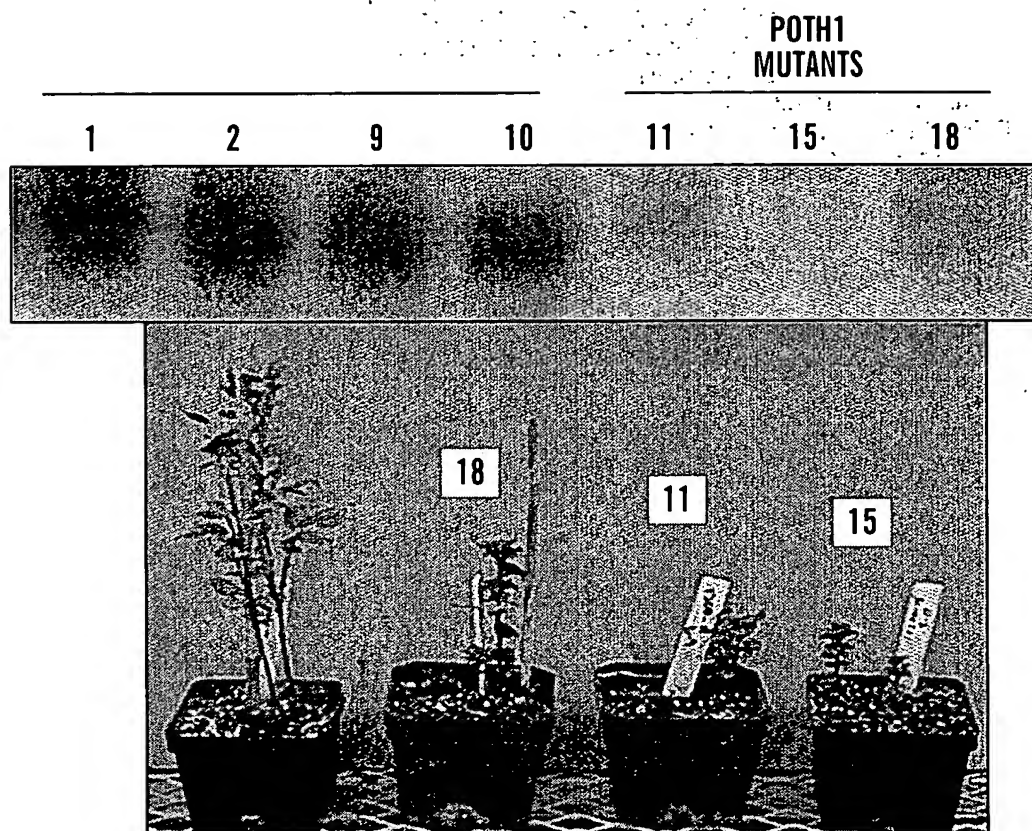


FIG. 8

8/28

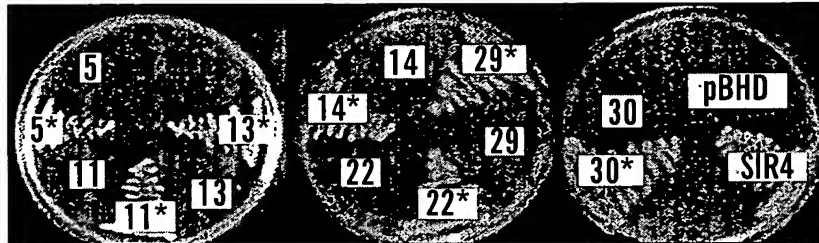


FIG. 9A

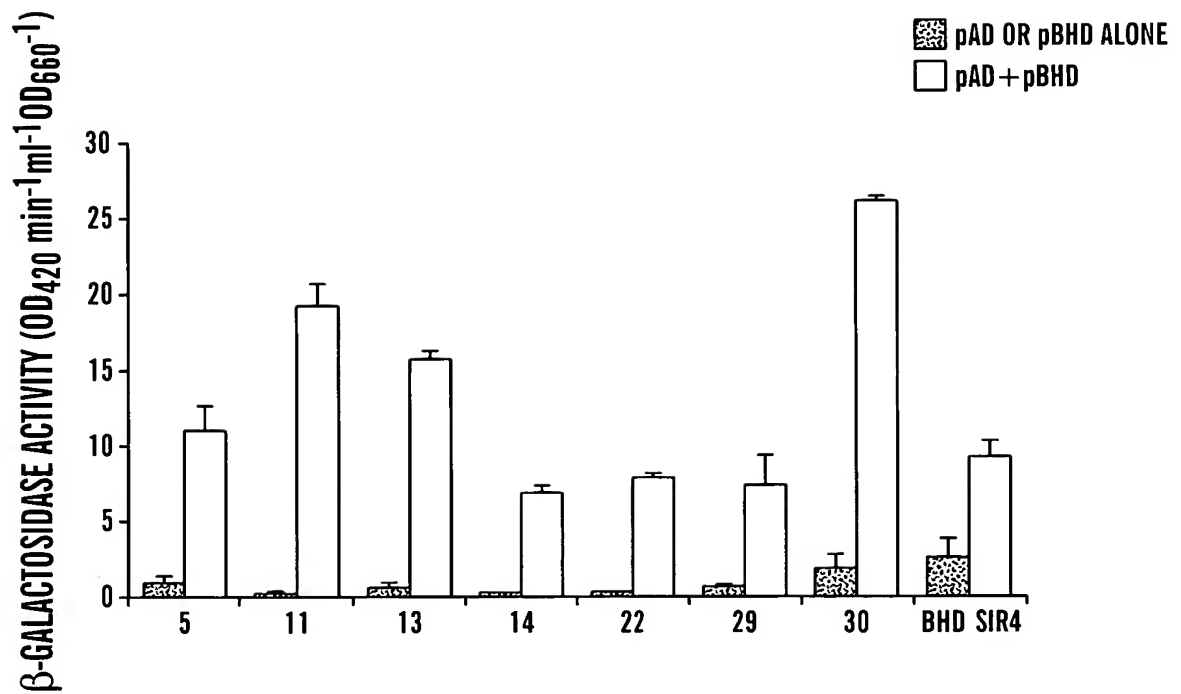


FIG. 9B

9/28

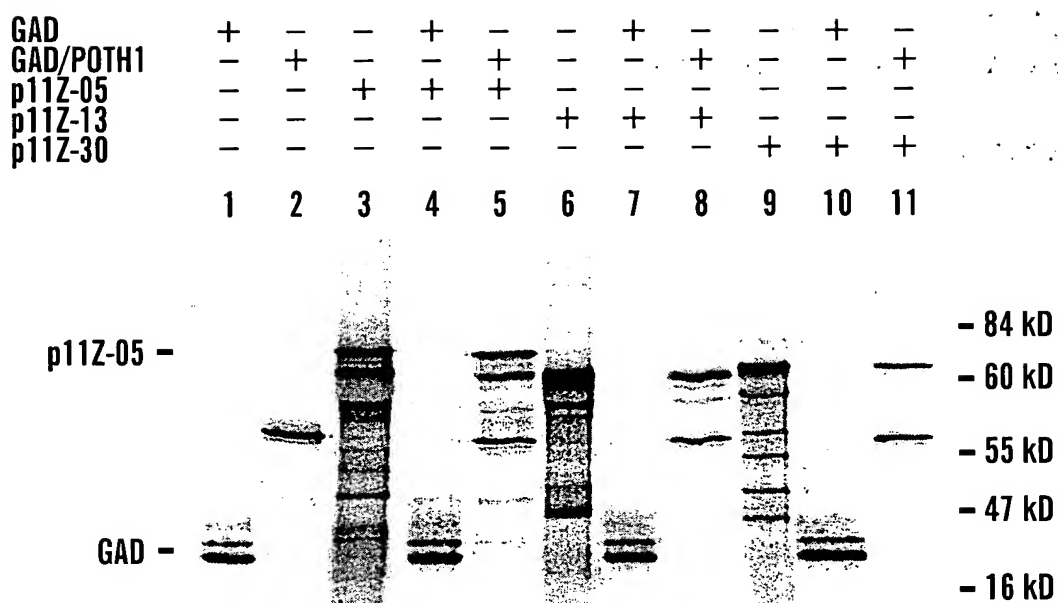


FIG. 9C

10/28



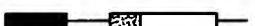







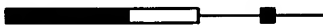

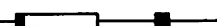





| | | GROWTH ON SELECTIVE MEDIA | RELATIVE % β -gal ACTIVITY |
|-----------------|--|---------------------------------|--|
| POTH1 (345 aa) |  | YES | 100 |
| pBHD1 (115-345) |  | YES | 35 |
| pBHD2 (165-345) |  | YES | 45 |
| pBHD3 (209-345) |  | NO | 0 |
| pBHD4 (1-261) |  | YES | 72 |
| pBHD5 (1-223) |  | YES | 92 |
| pBHD6 (1-171) |  | YES | 25 |
| pBHD9 (1-113) |  | YES | 38 |

FIG. 10A

| | | GROWTH ON SELECTIVE MEDIA | RELATIVE % β -gal ACTIVITY |
|------------------|--|---------------------------------|--|
| pAD5 (653 aa) |  | YES | 100 |
| pAD5-1 (230-653) |  | YES | 45 |
| pAD5-2 (257-653) |  | NO | 0 |
| pAD5-3 (313-653) |  | NO | 0 |
| pAD5-4 (348-653) |  | NO | 0 |
| pAD5-5 (384-653) |  | NO | 0 |
| pAD5-7 (1-487) |  | YES | 97 |
| pAD5-8 (1-358) |  | YES | 57 |
| pAD5-9 (1-315) |  | YES | 9.1 |
| pAD5-11 (1-286) |  | YES* | 0 |

*INTERACTION WITH THIS CONSTRUCT PRODUCED A FEW, SLOW GROWING COLONIES BUT NO DETECTABLE β -gal ACTIVITY.

FIG. 10B

11/28

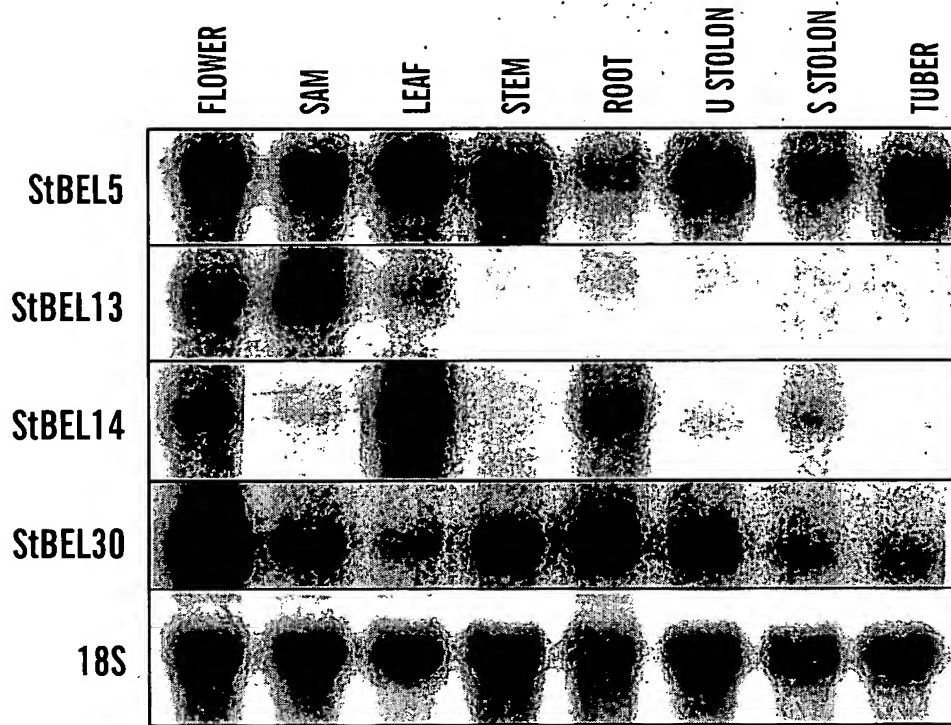


FIG. 11A

12/28

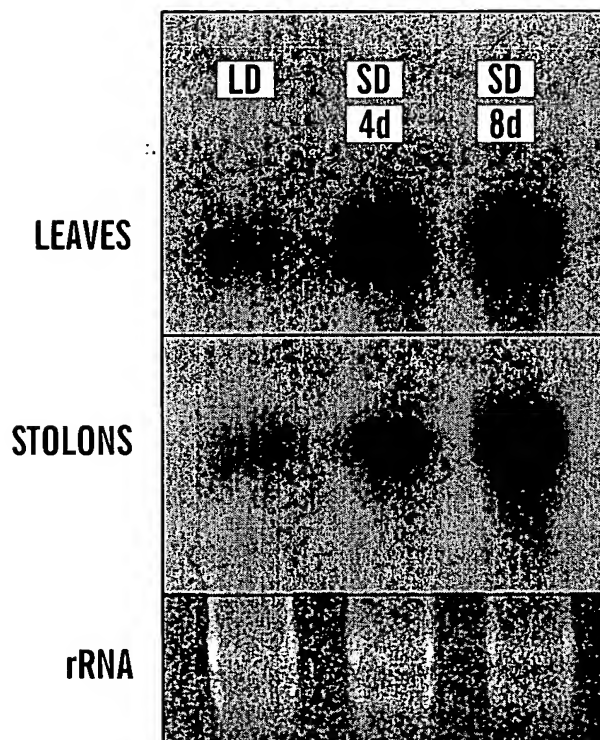


FIG. 11B

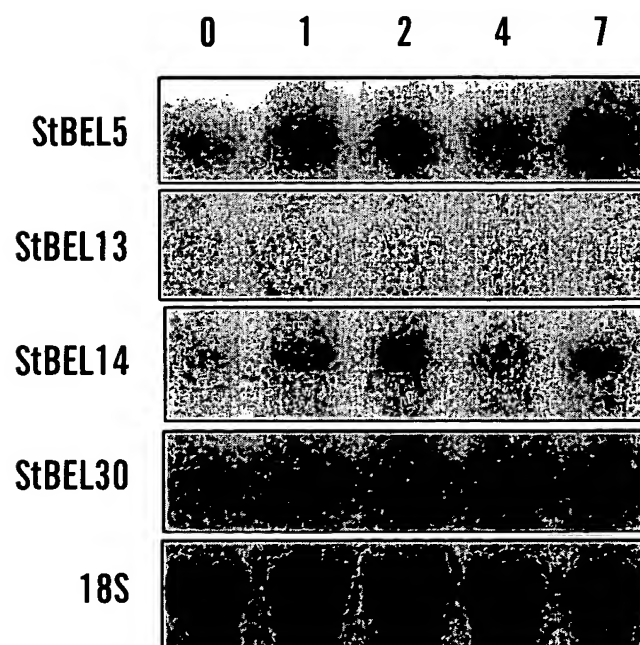


FIG. 11C

13/28

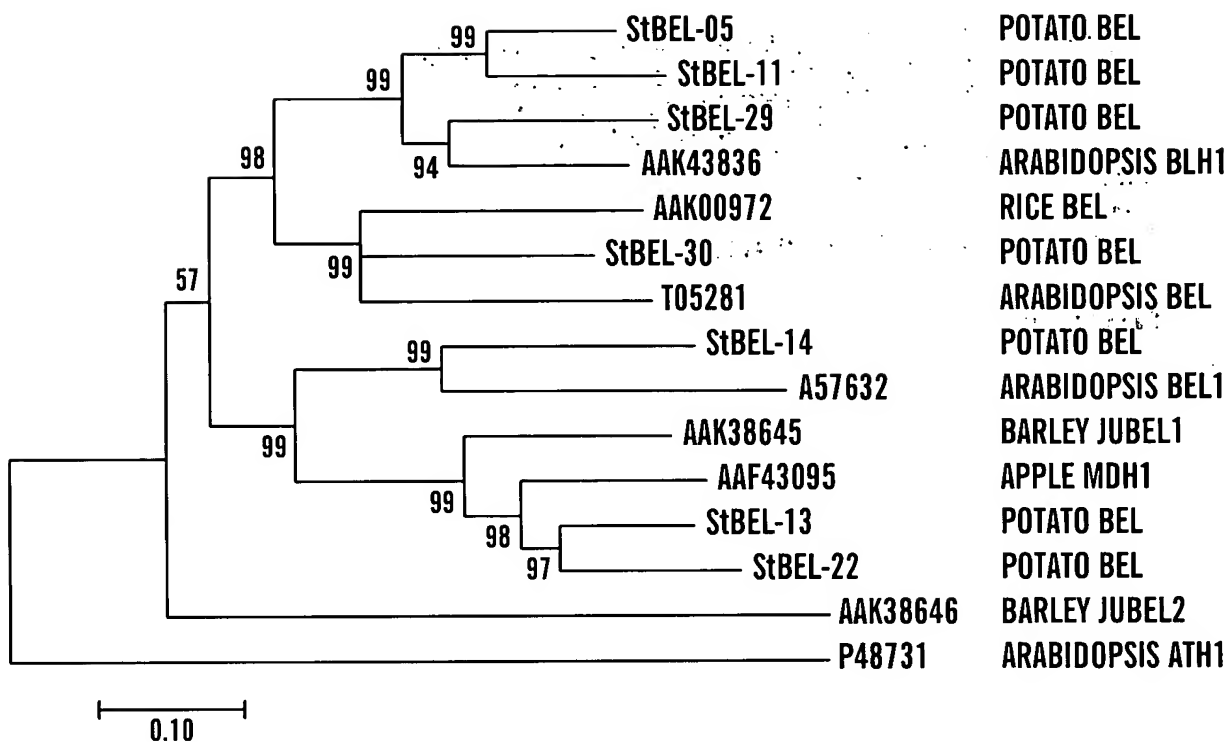


FIG. 12



FIG. 13A

14/28



FIG. 13B

15/28

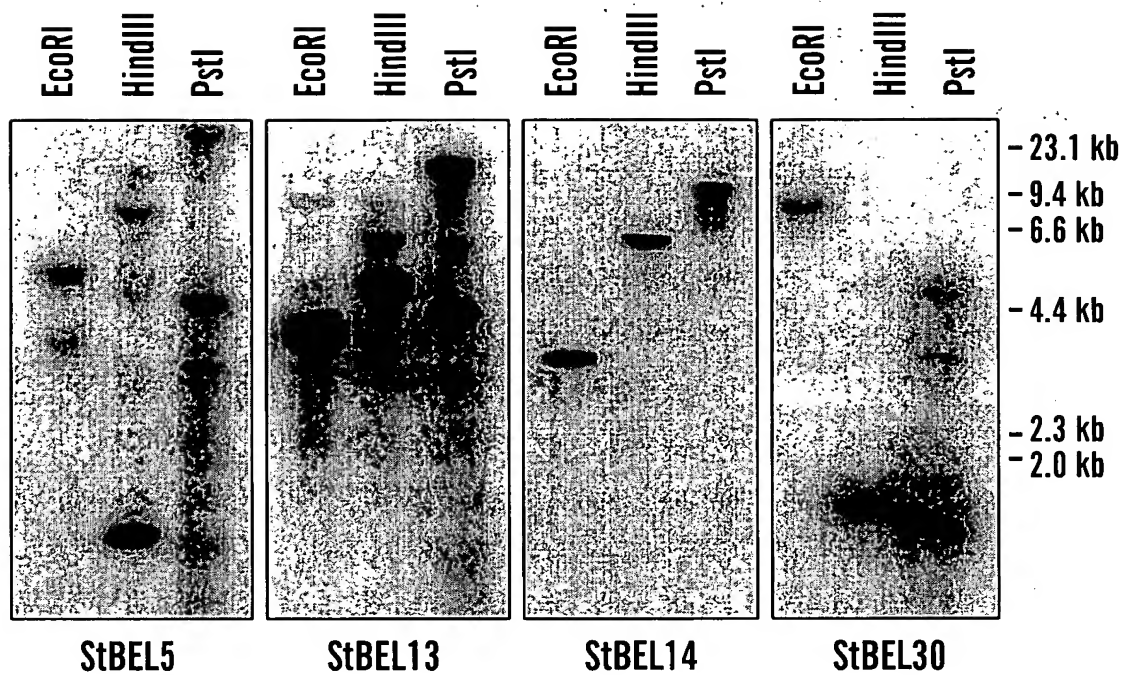


FIG. 13C

16/28

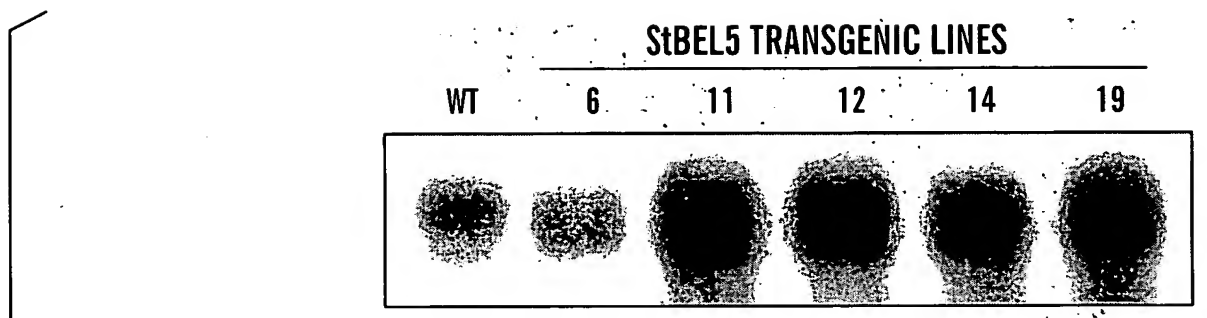


FIG. 14A

| | | | | | | | |
|---------------------|-----------|----|----|----|----|----|----|
| DAYS TO TUBERIZE | UNDER LD | - | - | 7 | 7 | 7 | 14 |
| | UNDER SD | 10 | 10 | NA | NA | NA | NA |
| NO. TUBERS* | AFTER 0d | 0 | 0 | 6 | 4 | 5 | 1 |
| | AFTER 7d | 0 | 0 | 10 | 8 | 15 | 4 |
| | AFTER 14d | 6 | 4 | 12 | 14 | 24 | 10 |

FIG. 14B

| | | | | | | |
|--|----|----|----|----|-----|----|
| TUBER YIELD PLANT ⁻¹ (mg)* | 18 | 28 | 18 | 95 | 292 | 50 |
|--|----|----|----|----|-----|----|

*FROM TWENTY-FOUR PLANTLETS PER LINE, THIRTY-FIVE FOR WT

FIG. 14C

17/28

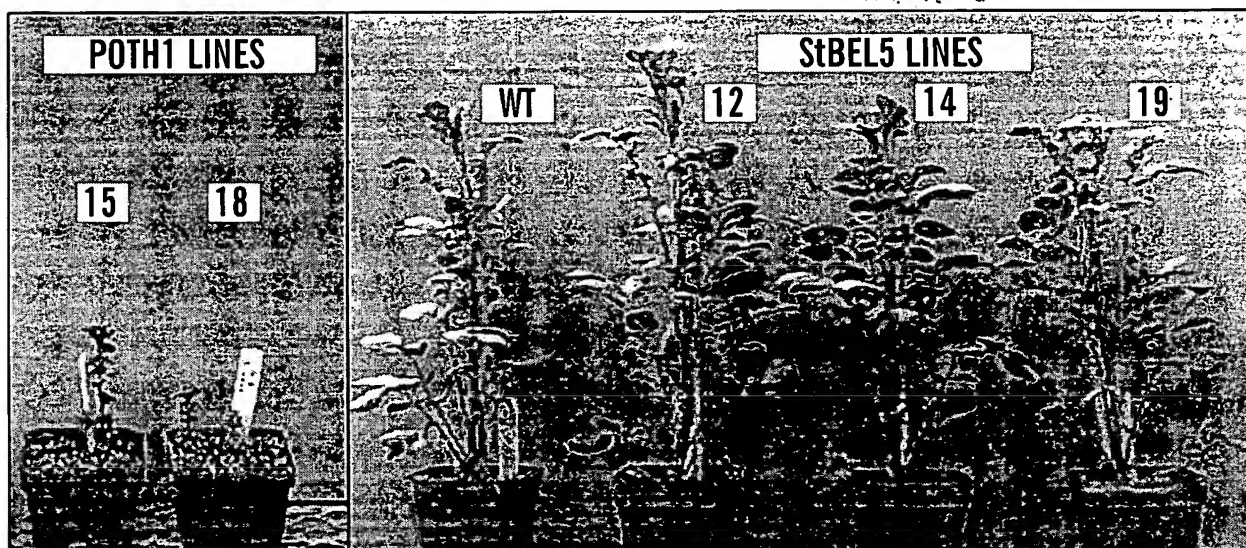


FIG. 15

18/28

FIG. 16A

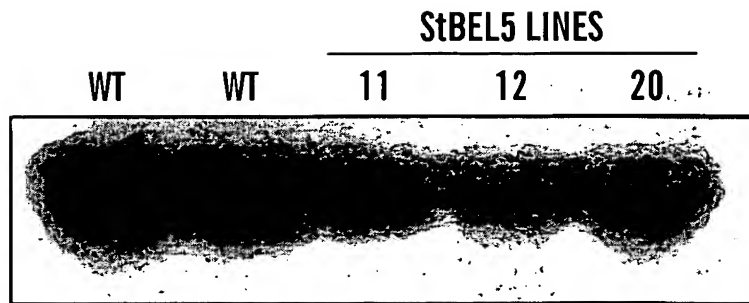


FIG. 16B

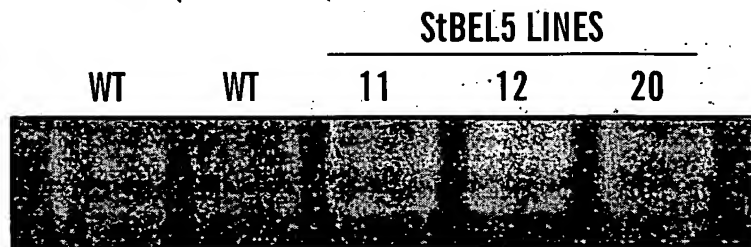
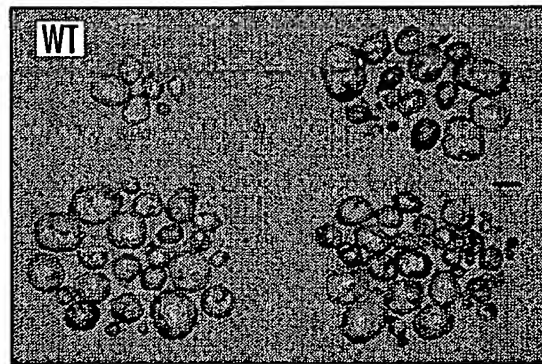
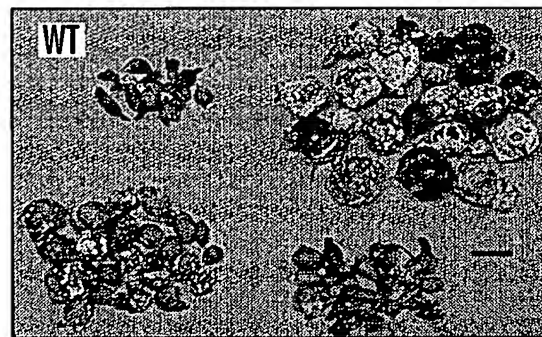


FIG. 17A



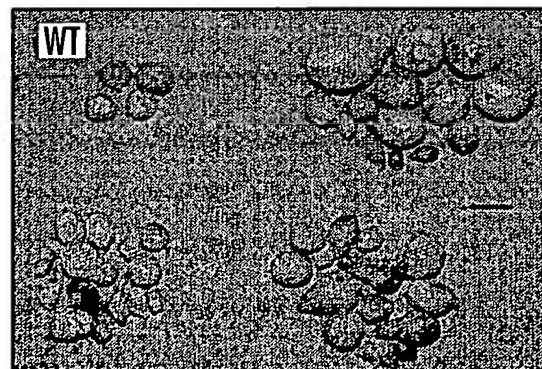
STBEL5
SENSE LINES
IN SOIL

FIG. 17B



STBEL5
SENSE LINES
IN VITRO

FIG. 17C



POTH1
SENSE LINES
IN VITRO

19/28

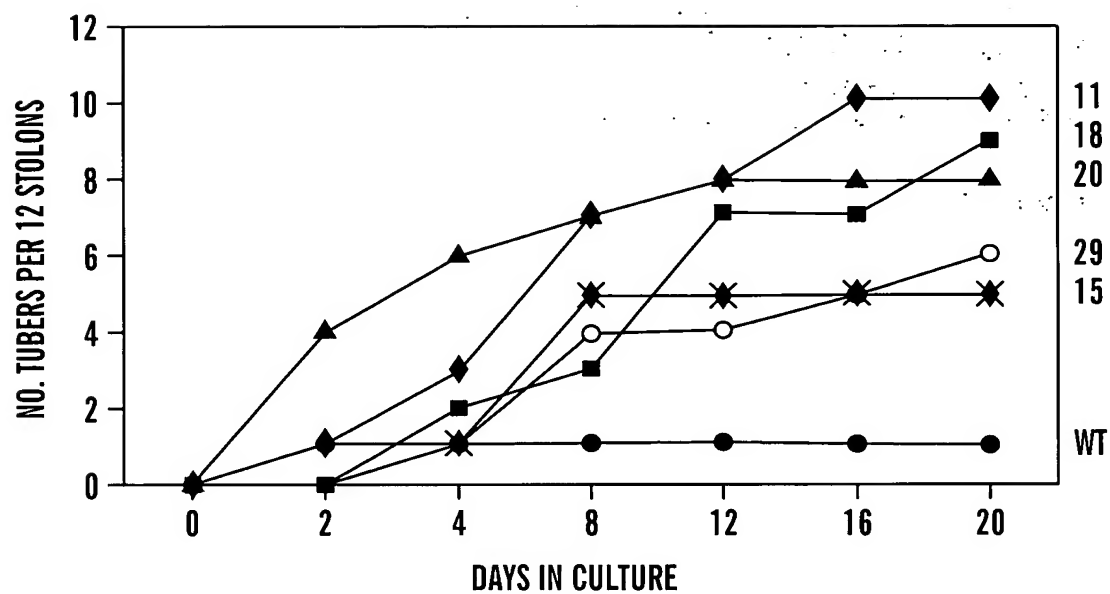


FIG. 17D

20/28

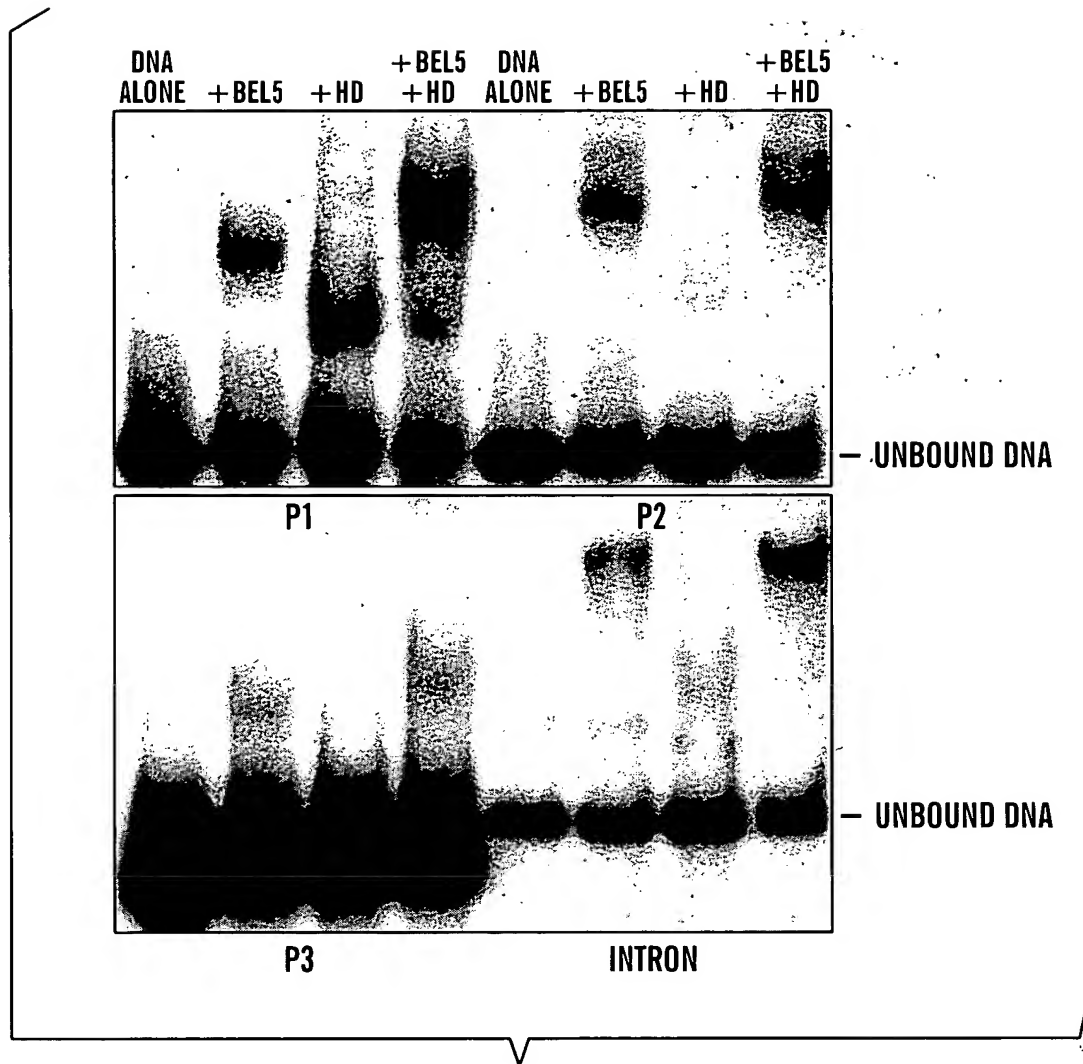


FIG. 18A

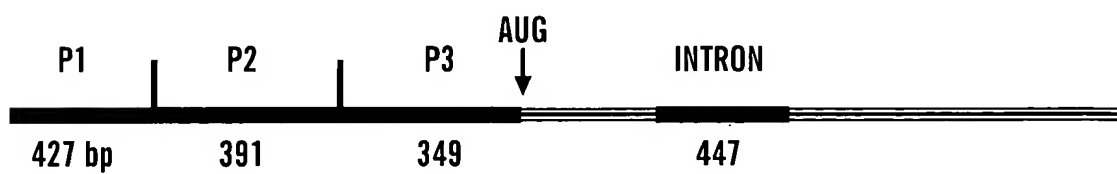


FIG. 18B

21/28

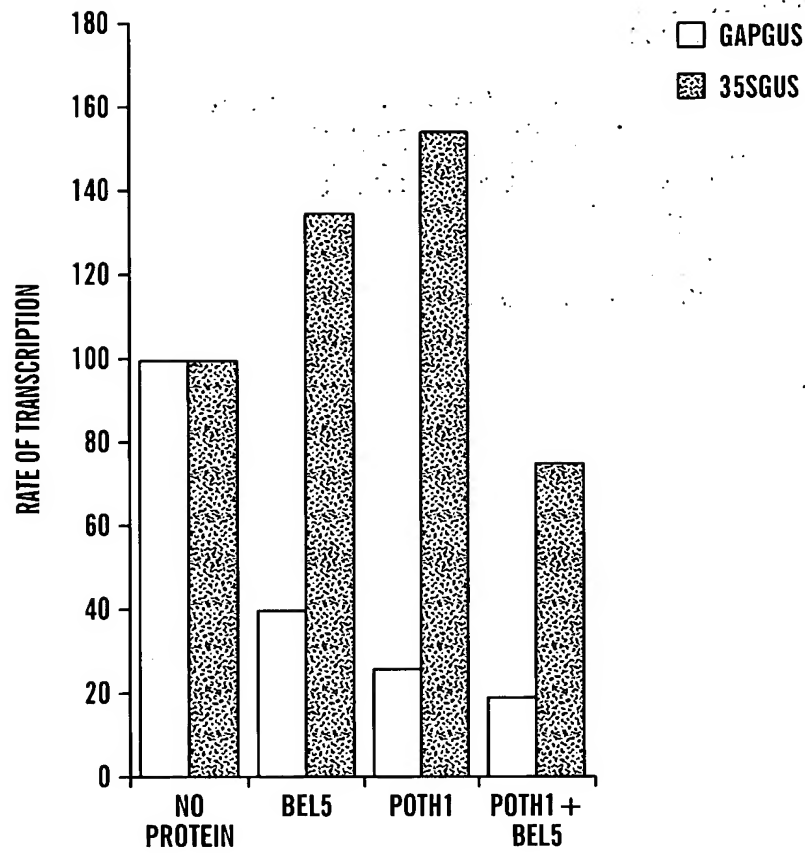


FIG. 19

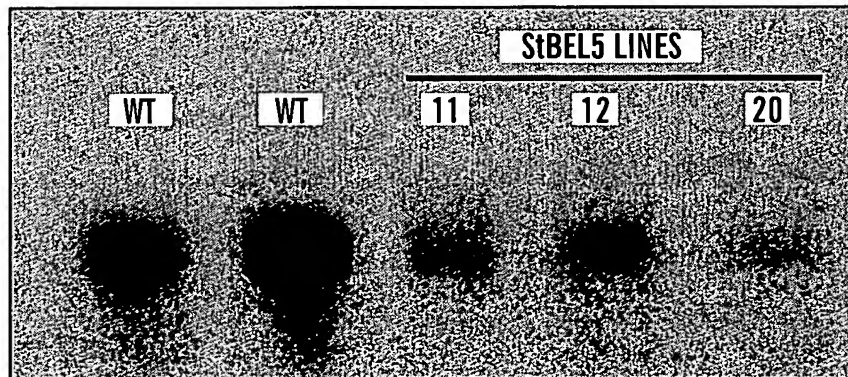


FIG. 20

22/28

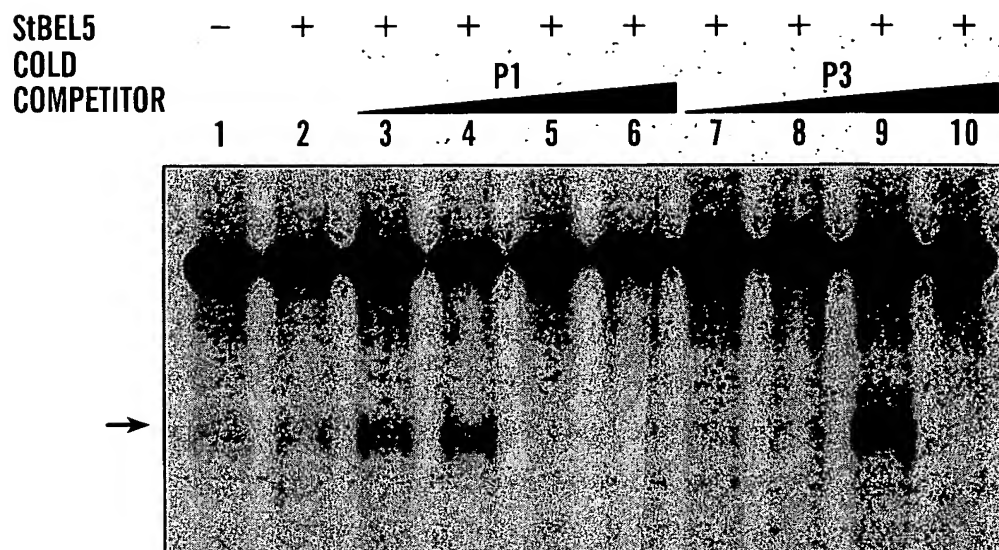


FIG. 21A

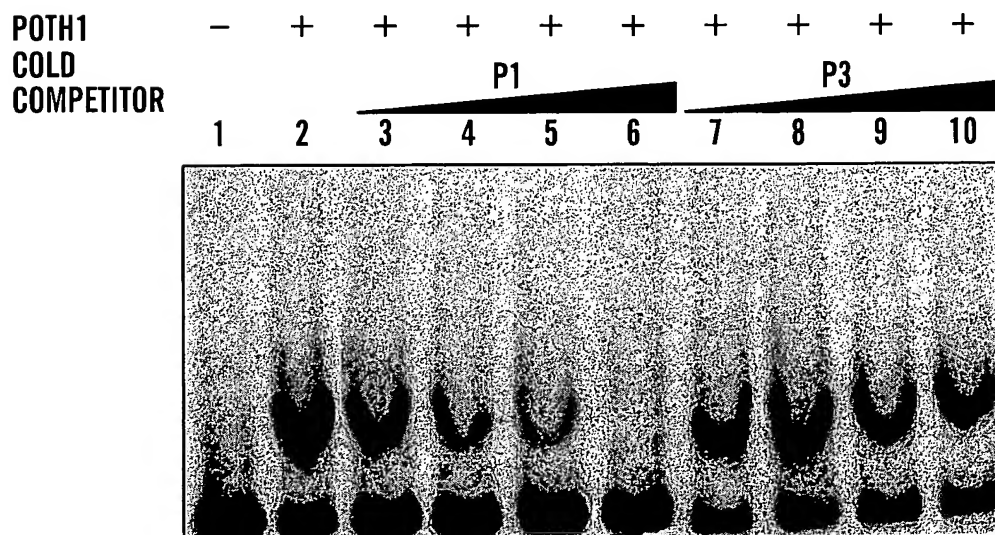


FIG. 21B

23/28

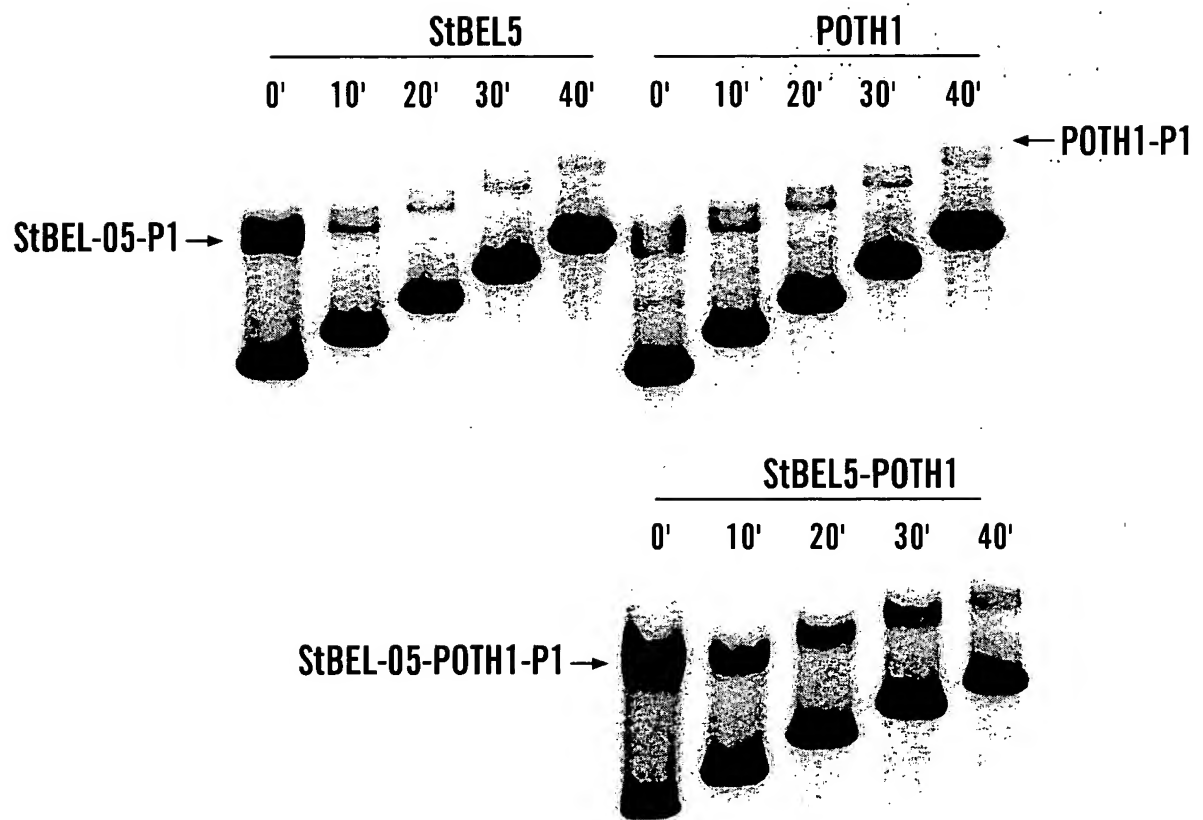


FIG. 22

24/28

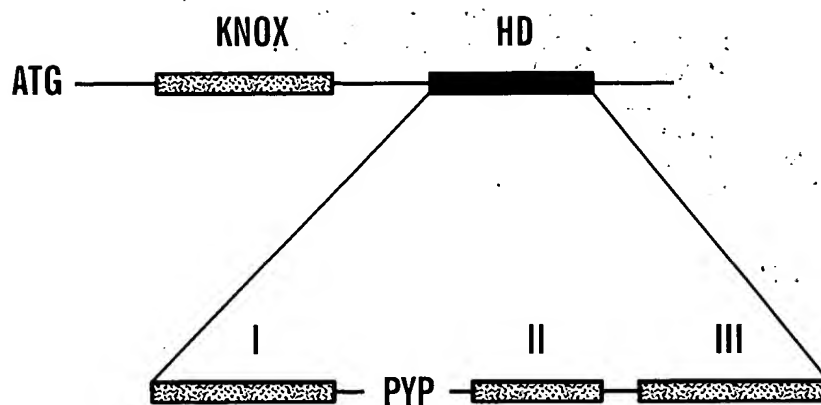


FIG. 23A

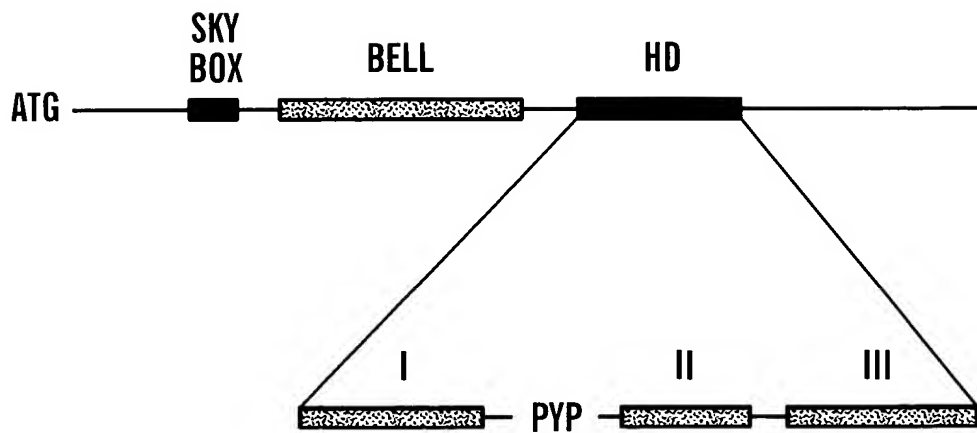


FIG. 23B

25/28

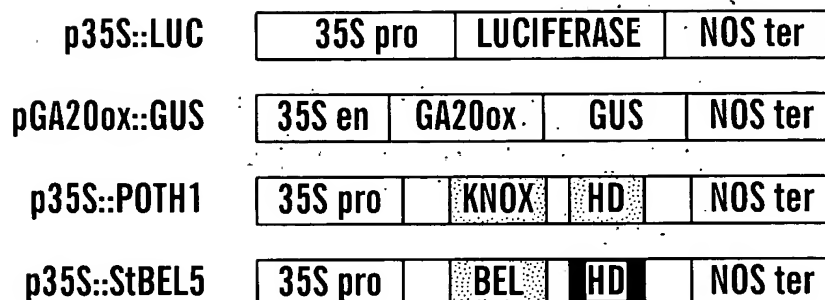


FIG. 24A

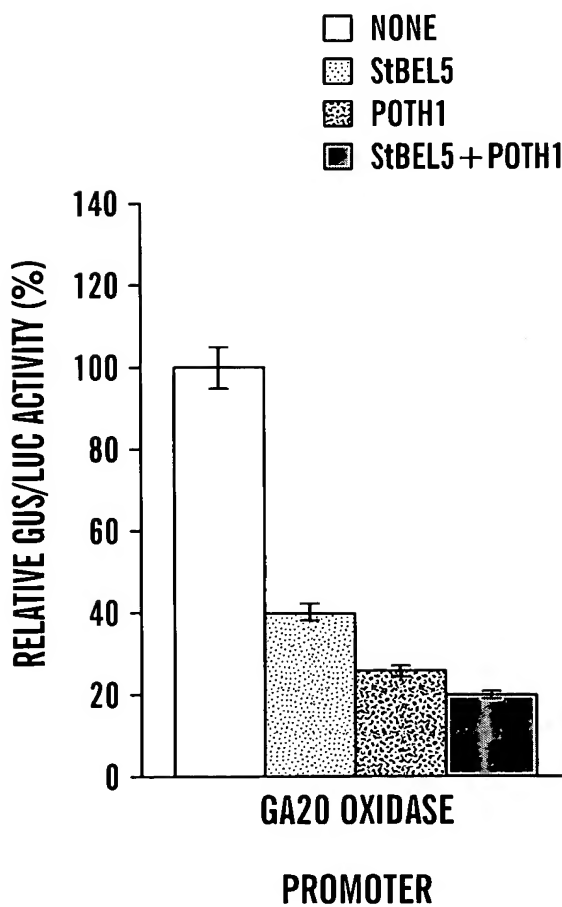


FIG. 24B

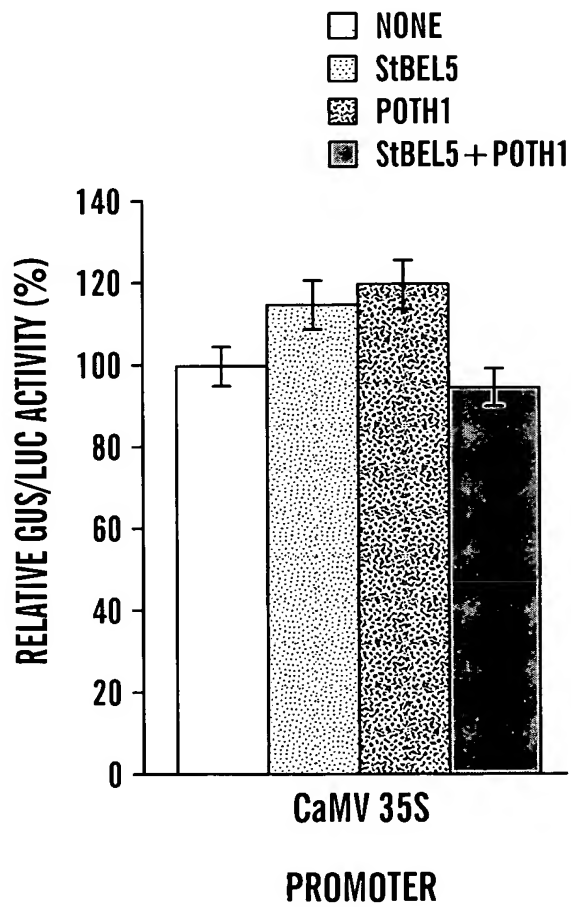


FIG. 24C

26/28

BOTH TFs IN TANDEM ARE NEEDED TO REPRESS THE TARGET GENE

DIAGRAM OF CONSTRUCTS

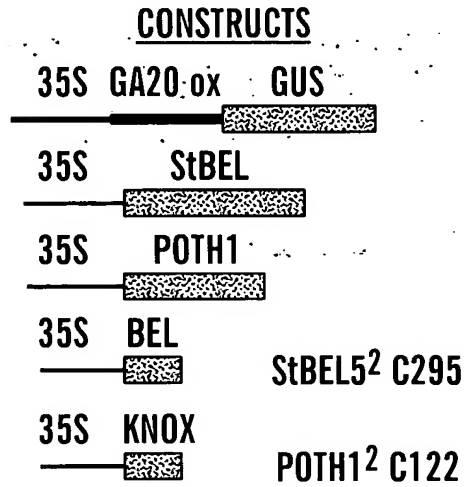


FIG. 25A

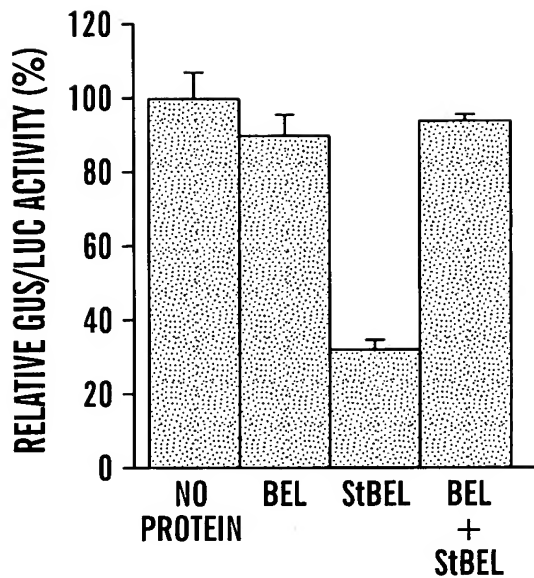


FIG. 25B

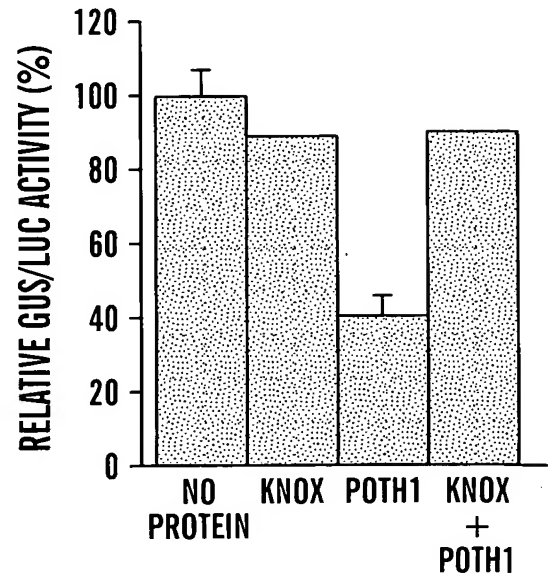


FIG. 25C

27/28

TGACTTGAC
↓
TGACTTCAC (MUTATED)

FIG. 26A

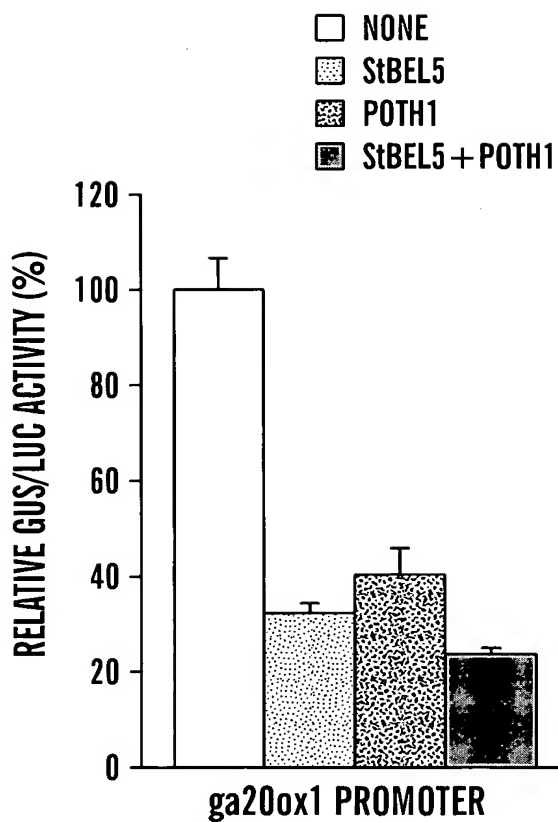


FIG. 26B

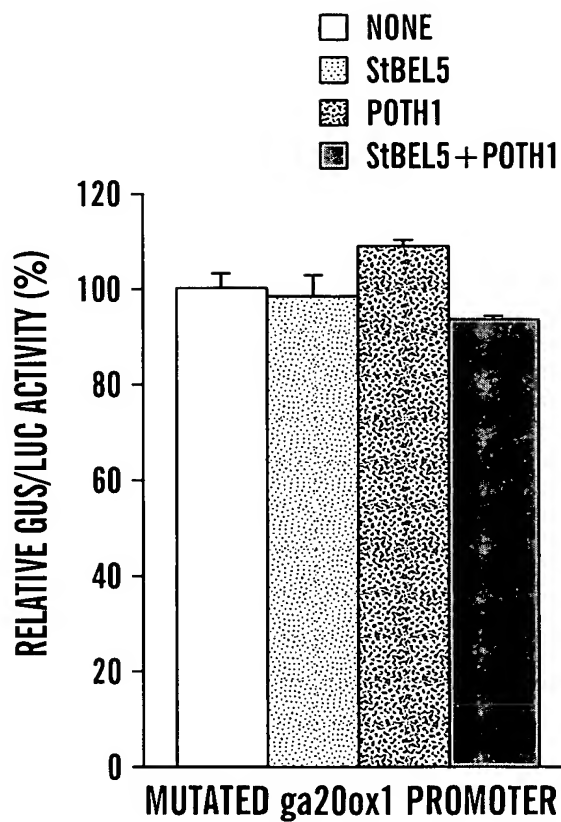


FIG. 26C

28/28

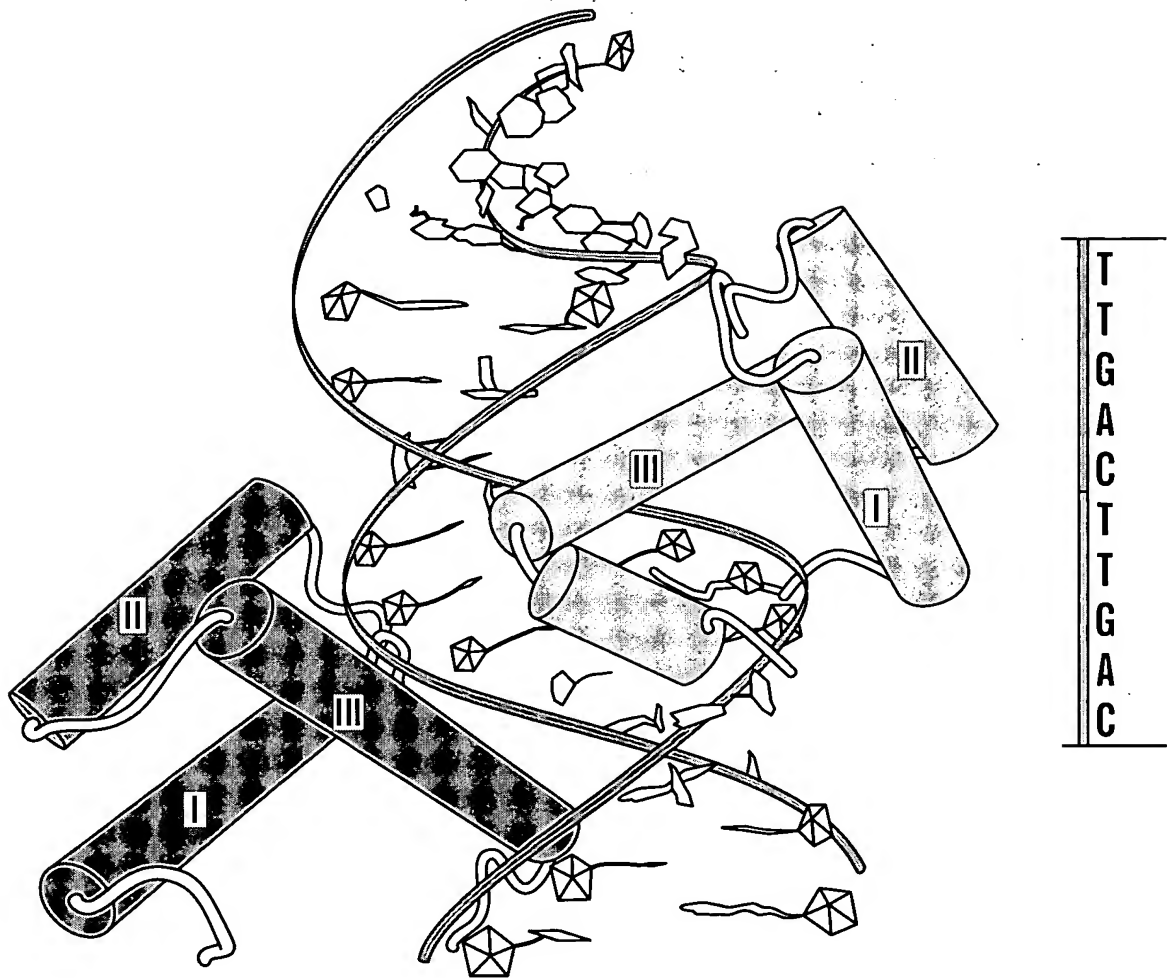


FIG. 27